

ABSTRACT

The present invention is aimed at providing the amino acid sequence of a nitrile hydratase having a novel mutation point, and the base sequence of the gene. It is also aimed at providing a method for modifying an enzyme having a nitrile hydratase activity.

As a means to achieve the above objects, the amino acid sequence of a mutant which is obtained by introducing a novel mutation into a *Pseudonocardia thermophila* JCM3095-derived nitrile hydratase consisting of two types of heterogeneous subunits, and the base sequence of the gene are provided. Further, the nitrile hydratase is modified by specifying the region to be modified in the stereostructure/amino acid sequence of the nitrile hydratase, and applying alteration such as substitution, insertion, deletion or the like, to the amino acids in the amino acid sequence which are corresponding to the amino acid residues forming the region.

According to the invention, it is possible to convert a nitrile compound to a corresponding amide compound more efficiently compared with the prior art.